

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in Locks or Latches.

We, JONAH WILKES, a subject of the King of Great Britain, and SAMUEL WILKES & SONS LIMITED, a company organised under the laws of Great Britain, both of Excelsior Works, Bloxwich, in the County of Stafford, do hereby declare the nature of this invention to be as follows:—

This invention relates to locks or latches and refers more particularly to that type of lock or latch including a catch plate usually applied to the stationary door frame and a latch proper usually applied to the movable door, one of these members having a latch pin or peg and the other having a socket for receiving the latch pin or peg.

This invention is particularly applicable to that kind of latch mechanism wherein the axis of the latch pin and the axis of the socket are at right angles to the door when closed such latch mechanism being commonly used in connection with the doors of vehicles and particularly with those vehicles having what are known as flexible bodies.

In latch mechanism of the type referred to when applied to flexible or fabric vehicle bodies the latch is relied upon to prevent the door from rattling and it has been the practice to employ a latch comprising a tapering socket and which engages over a tapering pin on the catch plate the taper allowing the socket to find the pin even if there has been some distortion of the body while the door is open.

It is known, however, that such mechanism wears rapidly owing to the frequent sliding of the metal socket upon the metal pin so that after a period of use such latch mechanism becomes ineffective for preventing door rattle.

The primary object of the present invention is to provide an improved form of latch mechanism of the kind referred to particularly applicable to the fabric or flexible bodies of vehicles which will remain effective for preventing door rattle for a longer period than the latches at present generally used.

According to the present invention either the pin or the socket is provided with a rubber or like collar or ring form-

ing a centralising liner situated between the periphery of the pin and the wall of the socket so that the contact obtained between the pin and the socket when the door is closed is metal to rubber (or like) contact.

The centralising liner of rubber may be applied either to the pin or to the socket or to both of these parts.

If required, the socket may be provided with a rubber ring at its smaller end into which the smaller end of the pin passes when the door is closed and/or the latch pin may be provided with a rubber collar at its larger end which enters into and engages the larger end of the socket when the door is closed.

Instead of thus providing a centralising rubber or like liner at one end of the pin and/or socket a single centralising liner may be provided either as a tapering rubber cover on the pin or as a tapering liner in the socket.

In any arrangement the metal to metal contact between the pin and the socket is reduced or avoided altogether.

It is, of course, to be understood that any suitable or general mechanism may be provided for locking the pin in the socket when required. For instance, the pin may be provided with one, two or more notches in one side, while the latch may be provided with a spring pressed lever which springs into one of these notches when the door is closed the lever being provided with one or more operating members so that the pin can be released when required.

In one construction the catch plate for application to the stationary door frame or pillar may have an attachment portion from one edge of which extends at right angles a cup like lug.

Secured co-axially with this cup like lug and extending parallel to the attachment portion is the latch pin.

This pin is of tapering form and is shouldered and mounted upon its larger end is a tapering or conical ring of rubber this ring having an external flange at its larger end which is disposed in the base of the cup.

The latch pin bearing the rubber ring is fixed in position in the cup by riveting.

The latch proper comprises a suitable casing of hollow form having an attachment plate or attachment flanges or lugs the hollow casing containing a spring pressed lever extending through a slot in the casing and having an operating handle.

Passing transversely through this hollow latch casing is a tapering metal socket, the larger end of this socket having a counter sunk or sharply tapering entrance.

The smaller end of the socket is provided with a rubber bush or ring which may be sprung into position.

The back of the hollow casing may be open so that the lever mechanism can be mounted therein and this open back is closed by a plate having a boss into which the rubber ring is forced.

This rubber ring may be somewhat tapered or flared at its ends and it is intended to receive the smaller end of the latch pin when the door is closed.

The spring pressed lever contained in the hollow latch casing, when released projects through a suitable slot into the

socket so that it is thus enabled to engage with one of the notches provided in the latch pin for locking the latch pin in the socket of the latch.

The larger end of the socket portion is counter sunk or sharply tapered and is thus readily adapted for finding the smaller end of the pin if the door is closed after some distortion of the body has taken place and when the door is fully closed the larger end of the socket engages the tapering rubber ring on the larger end of the pin and is centralised thereby, while the smaller end of the pin simultaneously engages the rubber ring in the smaller end of the socket and is centralised thereby, the metal pin being thus out of contact with the internal wall of the metal socket.

Dated the 14th day of December, 1927.

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COMPLETE SPECIFICATION.

Improvements in Locks or Latches.

We, JONAH WILKES, a subject of the King of Great Britain, and SAMUEL WILKES & SONS LIMITED, a company organised under the laws of Great Britain, both of Excelsior Works, Bloxwich, in the County of Stafford, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to locks or latches and refers more particularly to that type of lock or latch including a catch plate, usually applied to the stationary door frame, and a latch proper usually applied to the movable door, one of these members having a latch pin or peg and the other having a socket for receiving the latch pin or peg.

This invention is particularly applicable to that kind of latch mechanism wherein the axis of the latch pin and the axis of the socket are at right angles to the door when closed, such latch mechanism being commonly used in connection with the doors of vehicles and particularly with those vehicles having what are known as flexible bodies.

In latch mechanism of the type referred to when applied to flexible or

fabric vehicle bodies the latch is usually relied upon to prevent the door from rattling and it has been the practice to employ a latch comprising a tapering socket and which engages over a tapering pin on the catch plate the taper allowing the socket to find the pin even if there has been some distortion of the body while the door is open.

It is known, however, that such mechanism wears rapidly owing to the frequent sliding of the metal socket upon the metal pin so that after a period of use such latch mechanism becomes ineffective for preventing door rattle.

The primary object of the present invention is to provide an improved form of latch mechanism of the kind referred to particularly applicable to the fabric or flexible bodies of vehicles which will remain effective for preventing door rattle for a longer period than the latches at present generally used.

According to the present invention the pin and socket are provided with co-engaging tapering or part conical surfaces one of which is formed of rubber or the like and the other of metal, the rubber surface being in the form of a rubber or like collar or ring forming a controlling liner situated between the

periphery of the pin and the wall of the socket so that the contact obtained between the pin and the socket when the door is closed is metal to rubber (or like) 5 contact.

The centralising liner of rubber may be applied either to the pin or to the socket or to both of these parts.

If required, the socket may be provided with a rubber ring at its smaller end into which the smaller end of the pin passes when the door is closed and/or the latch pin may be provided with a rubber collar at its larger end which 10 enters into and engages the larger end of the socket when the door is closed.

Instead of thus providing a centralising rubber or like liner at one end of the pin and/or socket a single centralising liner 20 may be provided either as a tapering rubber cover on the pin or as a tapering liner in the socket.

In any arrangement the metal to metal contact between the pin and the socket is reduced or avoided altogether.

It is, of course, to be understood that any suitable or usual mechanism may be provided for locking the pin in the socket when required. For instance, the pin 30 may be provided with one, two or more notches in one side, while the latch may be provided with a spring pressed lever which springs into one of these notches when the door is closed the lever being 35 provided with one or more operating members so that the pin can be released when required.

It has already been proposed in the construction of a vehicle door latch to provide the socket upon the door with a circular section rubber ring with which a pin carried by the door frame was adapted to engage, the pin having a domed extremity and a parallel portion 40 which engaged the rubber ring, the arrangement being intended to prevent door rattle.

In order that our invention may be clearly understood and more readily carried into practice, we have appended hereunto one sheet of drawings illustrating the same wherein:—

Figure 1 is a view in side elevation showing one construction in accordance 55 with our invention.

Figure 2 is a sectional plan view on line 2—2 of Figure 1 shown upon an enlarged scale.

Figure 3 is a view corresponding with 60 Figure 2 but showing the parts out of engagement.

Figure 4 is a sectional plan view showing a modified construction.

In the construction illustrated the 65 catch plate 1 for application to the

stationary door frame or pillar may have an attachment portion 2 from one edge of which extends at right angles a cup like lug 3.

Secured co-axially within this cup like 70 lug 3 and extending parallel to the attachment portion is the latch pin 4.

This pin has a head 5 of tapering form and is shouldered at 6 and has a shank 7 upon which is mounted a tapering or 75 conical ring 8 of rubber this ring having an external flange 9 at its larger end which is disposed in the base of the cup 3.

The pin 4 bearing the rubber ring 8 is 80 fixed in position in the cup 3 by riveting.

The latch proper comprises a suitable casing 10 of hollow form having an attachment plate or attachment flanges or lugs 11, the hollow casing containing a 85 spring pressed lever 12 extending through a slot in the casing and having an operating handle 13.

Formed or secured in or on this casing and extending transversely with respect 90 thereto is a tapering metal socket 14.

The back of the hollow casing 10 may be open so that the lever mechanism 12 can be mounted therein and this open 95 back is closed by a plate 15 having a boss 16 into which the rubber ring 17 is forced.

The interior of this rubber ring is tapered and flared at its ends and it is intended to receive the smaller end of 100 the latch pin head 5 when the door is closed.

The spring pressed lever 12 contained in the hollow latch casing, when released projects behind the socket 14 so that it 105 is thus enabled to engage with one of the two notches 18 provided in the latch pin for locking the latch pin in the socket of the latch.

The end of the pin head 5 and the side 110 19 of the end notch 18 are curved or inclined so that they can override the lever 12.

The socket 14 is sharply tapered and is thus readily adapted for finding the 115 smaller end of the pin head 5 if the door is closed after some distortion of the body has taken place and when the door is fully closed the socket 14 engages the tapering rubber ring 8 on the larger end 120 of the pin 4 and is centralised thereby, while the smaller end of the pin head 5 simultaneously engages the rubber ring 17 in the boss 16 and is centralised thereby, the metal pin 4 being thus out of contact with the internal wall of the metal 125 socket.

In the construction illustrated in Figures 1, 2 and 3, the centralising liner or ring is in two parts one part being 130

upon the pin and the other being in the socket.

It is within the scope of this invention to put the centralising liner or ring either upon the pin only or in the socket only and in Figure 4 an arrangement is shown in which a centralising liner is applied to the socket.

This liner 20 is provided with a slot 21 at one side to enable the lever 12 to engage one of the notches in the pin.

The liner has a parallel portion 22 which is flared at the entrance end 23 and the liner also has a tapering portion 24 which is flared at the end 25.

The liner may be sprung into position in a transverse socket 26 in the casing 10 and in the position 16 of the back plate 15.

With this arrangement a pin may be used constructed to fit the interior of the rubber liner 20 and having the notches 18 as shown in Figures 2 and 3.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A lock or latch of the kind referred to wherein the pin and socket are provided with co-engaging tapering or part conical surfaces one of which is formed of rubber or the like and the other of metal, the rubber surface being in the form of a rubber or like collar or ring forming a

controlling liner situated between the periphery of the pin and the wall of the socket so that the contact obtained between the pin and the socket when the door is closed is metal to rubber (or like) contact.

2. A lock or latch according to Claim 1 wherein the latch casing is formed with a transverse socket and provided with a rubber or like ring associated with its back plate opposite to the socket and wherein the pin is formed with a tapering head and carries a rubber or like ring adapted to engage with the socket of the latch casing.

3. A lock or latch according to Claim 1 or 2 wherein the catch plate is provided with a lug in which the pin is fixed and wherein the pin adjacent the lug is provided with a tapering rubber or like ring surrounding a portion of the pin.

4. A lock or latch substantially as described with reference to Figures 1, 2 and 3 of the accompanying drawings.

5. A lock or latch substantially as described with reference to Figure 4 of the accompanying drawings.

Dated the 24th day of May, 1928.

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[This Drawing is a reproduction of the Original on a reduced scale.]

